REMARKS

Claims 39-66 are pending. Favorable reconsideration is respectfully requested of the rejection of claims 39, 41, 43, 45 and 47 as anticipated by Japanese patent document 4080735595. As the Examiner notes, the rejected claims call for the biguanide to be chemically bound to the polymer via certain identified types of linkages, including urea and amine linkages. The Examiner asserts that the Japanese patent document is silent as to the specific linkages and bonds created by the chain-creating reactions between biguanide and polydimethylsiloxane and then concludes by comparison to Example 4 of Applicant's specification that the linkages of the polymer of the Japanese document must be urea linkages as called for by the subject claims.

The Japanese patent document, however, is NOT silent with respect to the linkages. While the nature of the linkages might not identified in at least one English language Abstract, the original Japanese text, copy attached, shows structural formulae that demonstrate in all cases a simple -(-CH2-)n- polymethylene group covalently bonded to a secondary nitrogen atom of the biguanide. Therefore, there is no ambiguity in the disclosure when the formulae are examined. The linkages are NOT urea or amine linkages, but covalent polymethylene linkages.

Applicants' Example 4 does NOT show what might happen in the Japanese patent document as alleged by the Examiner. In Example 4, the biguanide compound (identified as Ph.P free-base, namely polyhexanide partial free-base, from Ex. 2) is not introduced until AFTER the amino-terminated polydimethylsiloxane has been reacted with PNGAID (isocyanate terminated) to form urethane urea bonds and terminal isocyanate groups (arithmetic suggests that if the amino terminated reagent had been in excess, the product would have been amino-terminated), and it is the biguanide nitrogen atoms that then react with and consume those

isocyanate groups. It is not the case that a polydimethylsiloxane and a biguanide compound are in any general sense likely to react to produce an isocyante-terminated copolymer.

Accordingly, it is submitted that the Japanese patent document does not in fact teach or suggest the polymeric materials of the present invention with their particular structures as set out in the claims subject claims.

Favorable reconsideration is also respectfully requested of the rejection of all pending claims as anticipated by or obvious over U.S. patent 5,817,325 (Sawan). The Sawan patent is distinguished in the introduction to Applicant's specification (page 3 lines 20-24) which states:

> US Patent No 5,817,325 discloses crosslinking biguanide polymers with, inter alia, isocyanates or epoxides to form an immobile, insoluble, non-leachable surface matrix which has the ability to deliver deposited biocidal silver salts into a the interior of a micro-organism. The polymers are useful for coating contact lens cases and other articles. The biocidal action is through the silver salts, not through the highly cross-linked biguanides.

The Examiner states that "The synthetic polymers include rubbers and thermoplastic deformable polymers such as polyurethanes, polyesters, polysulfone and polyisoprene. Other polymeric materials include organic materials such as polyamides, polycarbonate, polyacrylates, and celluloses. Non-polymeric materials that are modified by the biocides of the inventions include woods, papers, metals and cloths (col. 7, lin. 45-65)." This passage, however, refers to the substrates on which the antimicrobial material can be applied. It has no relation to the materials of which the antimicrobial material is made.

The Examiner continues, "The organic material comprises groups such as epoxy, amine, hydroxyl, halogen, alkyl or alkoxy silyl (col. 9, lin. 108)." This is a reference to active groups in the material itself which are available to bond with a surface of the substrate, to prevent the material from being leached from the substrate. It is not a disclosure of any internal bonding in

the material itself. See col. 9, lines 1-5, for the teaching that these groups are for immobilization purposes, and not for infection resistant polymer formation.

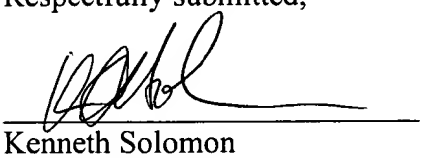
Next, the Examiner states, "The multifunctional groups include isocyanate, epoxides, acid chlorides, acid anhydrides and carboxylic acids (col. 9 lin. 10-23)." This discloses the cross-linking which is referred to in the introduction to Applicants' specification as a distinguishing factor of the Sawan patent. The Sawan product is highly cross-linked, as described in this passage referenced by the Examiner. This cross-linking results in an inactive polymer, in biocidal terms. Sawan's teaching is to add a separate and distinct biocidal product, preferably silver salts, to be carried by the polymer until it is time to release the biocide (silver) into a microorganism. See col. 10, lines 1-36, of the Sawan patent for an overview of the mechanism.

Clearly, therefore, the Sawan patent teaches the skilled artisan that the polymer on its own is not a biocidal agent. In contrast, the present invention specifies a biguanide pendant to the polymer chain, held by certain types of chemical bond, which allows the infection-resistant functionality of the biguanide to be retained, an ability not previously realised in satisfactory terms. Moreover, irrespective of the question of what kinds of bonds are in fact present in products described by Sawan, which the Examiner acknowledges are not disclosed in any clear terms, the fact remains that Sawan discloses cross-linked biguanides and the present claims call for pendant biguanides. Thus, while Examples 19 and 20 of Applicants' specification demonstrate infection resistance in the claimed products, Sawan teaches that using the polymers disclosed therein, it is essential to add a metallic biocidal agent in order to be effective. Nothing in the Sawan patent or the remaining art of record teaches or suggests altering the products of the

Sawan patent contrary to its teachings to produce the infection resistant polymers of the subject claims. Accordingly it is submitted that in view of the explicit differences between cross-linked as opposed to pendant biguanides, and the lack of biocidal properties in the Sawan polymers, the subject claims distinguish patentably over the Sawan patent.

In light of the foregoing, favorable reconsideration and early allowance of all pending claims are respectfully requested.

Respectfully submitted,



Kenneth Solomon
Reg. No. 31,427
Thompson Coburn LLP
One US Bank Plaza
St. Louis, Missouri 63101
(314) 552-6000
(314) 552-7000 (fax)